



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/527,892	03/20/2000	Mack J. Schermer	109.629.111	4383

7590

07/08/2003

Richard A. Goldenberg  
Hale and Dorr LLP  
60 State Street  
Boston, MA 02109

EXAMINER

HANDY, DWAYNE K

ART UNIT

PAPER NUMBER

1743

DATE MAILED: 07/08/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/527,892

Applicant(s)  
Schermer et al.

Examiner  
Dwayne K. Handy

Art Unit  
1743



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some\* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 5-12
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

Art Unit: 1743

**DETAILED ACTION**

***Claim Rejections - 35 USC § 101***

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-24 and 49-53 provide for the use of a pin detection apparatus, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. a claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 1-24 and 49-53 are also rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

3. Claims 25-48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 25 and 48, applicant has claimed an apparatus for determining pin

Art Unit: 1743

locations comprised of a sensor, but has not claimed any pins. Therefore, it is unclear to the Examiner as to what is to be detected and how the detection will be achieved.

**Note:** For examination purposes, the Examiner searched for any method which detected a pin location or through which a pin location could be discerned in searching the method claims. For the apparatus claims, the Examiner searched for an apparatus with a pin and any sensor which may detect the pin.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

a person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

5. Claims 1-4, 13, 14, 23, 25-27, 31, 32, 36, and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by El-Hage et al. (5,843,378). El-Hage et al. teach a method of making a probe element for aspirating an dispensing with a surface sensing capability. From the Abstract:

Art Unit: 1743

a fluid conduit and rod are positioned in the central bore of a tube so that an inlet end of the conduit and a contact end of the rod protrude from an upper end of the tube and a discharge end of the conduit and a sensing end of the rod protrude from a lower end of the tube. The tube has a heat-shrinkable outer layer and a meltable inner layer. The tube is heated so that its outer layer shrinks and its inner layer melts to encapsulate middle portions of the conduit and rod. a circuit board having first and second traces and first and second holes is placed on the upper end of the tube so that the inlet end of the conduit is inserted through the first hole and the contact end of the rod is inserted through the second hole. The conduit and rod are attached to the board so that the conduit is electrically connected to the first trace and the rod is electrically connected to the second trace. First and second conducting pins are also attached to the board. The conducting pins electrically connect the traces to a voltage sensing circuit when the probe is attached to a probe positioning device.

The embodiment relevant to the instant claims is shown in Figure 2 and described in columns 3 and 4. From column 3:

(18) The method also includes the step of positioning the conduit and rod in the central bore such that the inlet end of the conduit and the contact end of the rod protrude from the upper end of the tube and such that the discharge end of the conduit and the sensing end of the rod protrude from the lower end of the tube. The tube is heated so that the outer layer shrinks and the inner layer melts to encapsulate the middle section of the conduit and the middle portion of the rod. The middle section of the conduit and the middle portion of the rod are encapsulated such that the conduit is electrically insulated from the rod.

(19) In the preferred embodiment, the method includes an additional step of providing a board having a first hole for receiving the inlet end of the conduit and a second hole for receiving the contact end of the rod. The board also has first and second electrically conductive traces which are electrically insulated from each other. The inlet end of the conduit is inserted through the first hole and the contact end of the rod is inserted through the second hole. The conduit and rod are then attached to the board such that the conduit is electrically connected to the first trace and such that the rod is electrically connected to the second trace.

(20) The method further includes the step of attaching to the board first and second conducting pins for electrically connecting the traces to a voltage sensing circuit. The pins are attached to the board such that the first and second pins are electrically connected to the first and second traces, respectively, and such that the pins are electrically insulated from each other. In the preferred embodiment, the board is a printed circuit board having a diameter larger than the outer diameter of the tube to facilitate attachment of the probe to a probe positioning device, such as a mechanical arm.

Art Unit: 1743

In column 4, the embodiment shown in Figure 2 is shown in detail and includes a hole through the circuit board (46) which is used to register the end (44) of the rod (30). The apparatus detects the location of the rod based on whether or not it is present in the hole of the circuit board. The Examiner would consider this as meeting the limitation of "using a pin detection apparatus".

6. Claims 1-3, 8-10, 13, 21, 25, and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Verlinden et al. (6,131,512). Verlinden teaches a printing master comprised of a printing master and a base (33). The base is mated with the printing master when the printing master is used. The base is properly oriented to the master through the use of strain gauges which touch the master to ensure that the two pieces of the printer align (column 3, line 60 - column 4, line 17). The strain gauge includes pins which are part of the base plate. The strain gauges are then monitored (column 5) to ensure that the two pieces of the plate are oriented properly during use of the printer. In using the strain gauges of the device to determine the orientation of the printing device, one would also have to detect the pin location.

7. Claims 1-4, 6, 8, 9, 13, 14, 25-27, 29, 31, 32, 36, 37, 44 and 46 rejected under 35 U.S.C. 102(e) as being anticipated by Inder et al. (6,212,949). Inder teaches a fluid level sensor and a washer unit. The washer head (13) is vertically movable by a drive (2) above a reaction tray (8) having fluid (15) in separate cells. The level sensor is comprised of two electrodes arranged along a fluid path within the aspirator tips (6). The electrodes are held at different

Art Unit: 1743

potentials and are effectively insulated from each other. If fluid is aspirated along the fluid path, then the electrodes are bridged. The electrodes, then, sense fluid in the tips of the washer head are by a change in conductance. This indicates that fluid has been obtained and therefore must mean that the tips are in the fluid - which gives the location of the tips. Inder describes the washer head in detail in column 2 and includes the use of circuit boards for providing the electrical connections and components (column 3, lines 1-50). Inder cites the use of capacitance or impedance in column 5, lines 42-45.

### *Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Friedman et al. (6,235,473) teaches a gene pen device for array printing.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwayne K. Handy whose telephone number is (703)-305-0211. The examiner can normally be reached on Monday-Friday from 8:00 to 4:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden, can be reached on (703)-308-4037. The fax phone number for the organization where this application or proceeding is assigned is (703)-772-9310.

Application/Control Number: 09/527,892

Page 7

Art Unit: 1743

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0661.

  
Jill Warden  
Supervisory Patent Examiner  
Technology Center 1700

dkh

June 29, 2003